THE NORTH AMERICAN SPECIES OF PEDIOBIUS WALKER
(HYMENOPTERA: EULOPHIDAE)

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The chief purpose of this paper is to provide names for three North American species of *Pediobius* Walker that have remained unnamed for many years in the U. S. National Museum collection. It seems desirable, however, to publish at the same time a key to the 23 species that are now assigned to this genus in North America. I also take this opportunity to designate lectotypes for those species that are still represented by a series of cotypes and to include here the available information about the types of all the Nearctic species. In 1963 Peck published a thorough catalog of North American Chalcidoidea (Canad. Ent. Sup. 30, 1092 p.). In this catalog there are complete literature citations for all the described Nearctic species of *Pediobus*, along with all the known distribution and host information. Those data need not be repeated here, although I have included a brief statement about the biological relationships of each species.

This genus has been known for almost a century, in a very large amount of literature, under the name *Pleurotropis* Foerster, 1856. In 1953, however, Ferrière showed that *Pediobius* Walker, 1846, was the correct name for it (Ist. Ent. R. Univ. Bologna Bol. 19: 400). In 1958 I transferred all the Nearctic species from *Pleurotropis* to *Pediobius* (U. S. Dept. Agr. Monog. 2, Sup. 1, p. 68). The North American species of this genus were first revised in 1912, when Crawford published a key to the 9 species that were then assigned to it (U. S. Natl. Mus. Proc. 43: 177–179). In 1915 Waterston (Bul. Ent. Res. 5: 343–346) defined and characterized this genus, and his views are still accepted by all workers in Chalcidoidea. Waterston also described and illustrated many of the best specific characters. He was working with the Ethiopian fauna, but the specific characters he used have been found by subsequent workers to be useful for species throughout the world.

KEY TO NEARCTIC SPECIES, FEMALES

1. Legs beyond coxae yellowish tan 2
   All femora and tibiae mostly or entirely black or metallic 3
2. Hind coxae strongly sculptured; apex of scutellum smooth ..... **testaceipes** (Crawford)
   Hind coxae smooth; apex of scutellum sculptured ..... **crocidophorae**, new species
3. Gaster narrow and elongate, more than 1½ times as long as head and thorax combined; first gastral tergum short, entirely smooth; first funicular segment twice as long as pedicel and ⅘ as long as second and third funicular segments combined ..... **longus** (Girault)

Gaster relatively shorter and broader, as long as or shorter than head and thorax combined 4

4. Scutellum smooth medially or at apex; scutellum may be almost entirely smooth, or smooth area may be quite small, figs. 4, 6, 7, 8 5
Scutellum completely sculptured 10

5. Scutellum smooth at apex, sculptured elsewhere, fig. 4 6
Scutellum almost entirely smooth, fig. 7; or smooth medially with sculpturing laterally and at apex, figs. 6, 8 7

6. Vertex smooth; median carinae of propodeum diverging apically ..... **lonchaeae**, new species
Vertex shagreened; median carinae of propodeum parallel ..... **williamsoni** (Girault)

7. Nearly entire scutellum, including apex, smooth, fig. 7; only a few longitudinal striae present in a narrow area at each lateral margin (in some specimens there appears to be only one longitudinal stria at each lateral margin) ..... **longfellowi** (Girault)
Only median area, in basal half of scutellum, smooth, figs. 6, 8; broad sculptured areas laterally and apically 8

8. Median smooth area of scutellum narrow, less than $\frac{1}{10}$ the scutellar width, fig. 6 ..... **nawai** (Ashmead)
Smooth area covering at least $\frac{1}{4}$ the scutellar width, fig. 8 9

9. Vertex metallic green ..... **tarsalis** (Ashmead)
Vertex black with brassy or coppery sheen ..... **aphidiphagus** (Ashmead)

10. All hind tarsal segments black or dark brown 11
Basal 3 hind tarsal segments tan, yellow, or white; apical segment usually dark brown or black, occasionally also light in color 12

11. First funicular segment 1½ times as long as second, fig. 3; petiole almost twice as broad as long; median propodeal carina single at base, separating into two diverging branches halfway to apex ..... **nigritarsis** (Thomson)
First and second funicular segments equal in length, fig. 2; petiole as long as broad; median propodeal carinae double throughout ..... **metallicus** (Nees)

12. Area on frons immediately below transverse groove smooth 13
Frons below transverse groove shagreened or minutely alveolate 14

13. Eyes anteriorly emarginate, frons narrow, fig. 1 ..... **splendens** (Cook and Davis)
Anterior eye margins almost straight, frons wider, fig. 5 ..... **phyllotretae** (Riley)

14. Praescutum and basal third of scutellum with a vague, but discernible, longitudinal median groove; first gastral tergum short; thorax bright metallic green or brassy 15
Not having that combination of characters; longitudinal groove not discernible on praescutum 16

15. Petiole broader than long; thorax bright metallic green; first gastral tergum weakly sculptured apically or entirely smooth ..... **utahensis** (Crawford)
Petiole as long as broad; thorax brassy; first gastral tergum strongly sculptured apically ..... **perdubius** (Girault)

16. Mesonotal foveae smooth or almost so 17
Mesonotal foveae sculptured much as the rest of the mesonotum 19

17. Entire frons between transverse groove and anterior ocellus smooth ..... **bucculatricis** (Gahan)
Frons below anterior ocellus partly or completely sculptured 18
18. Axilla smooth anteriorly, finely shagreened posteriorly ..... **lithocolletidis** (Ashmead)
Axilla uniformly covered with alveolate sculpture ..... **albipes** (Provancher)
19. Praescutum shining black, non-metallic 20
Praescutum metallic green or blue-green, either brilliant or dark in hue, but distinctly metallic 21
20. Gaster short, first tergum making up most of dorsal length of gaster ..... **niger** (Ashmead)
Gaster elongate, first tergum comprising less than half the dorsal length of gaster ..... **chloropidis**, new species
21. Gaster elongate, first tergum making up less than half the dorsal length of gaster; praescutum bright metallic green or blue-green ..... **rugosithorax** (Crawford)
Gaster short, first tergum comprising most of dorsal length of gaster; praescutum dark metallic green or blue-green 22
22. First gastral tergum almost smooth, with only faint sculpture posteriorly; scutellum metallic blue-green; anterior margin of petiole elevated on dorsal meson as a triangular lobe ..... **wilderi** (Howard)
Posterior half of first gastral tergum strongly sculptured; scutellum black with brassy luster; anterior margin of petiole elevated on dorsal meson as a broadly rounded lobe ..... **sexdentatus** (Girault)

Pediobius singularis (Howard) was published in the combination *Chrysocharis singularis* in 1882 as a *nomen nudum* (Amer. Nat. 16: 61). In 1891 Howard validated the name by illustrating the pupa (Insect Life 4: 194). This pupa as figured certainly is a member of the genus *Pediobius*, as now defined. No authentic specimens of this species can now be found in the U. S. National Museum collection, or elsewhere. The species cannot be placed from the illustration of the pupa alone. *P. singularis* should be left unplaced.

Pediobius epilachnae (Rohwer), a Philippine egg parasite of the coccinellid beetle *Epilachna*, has been introduced into eastern North America for biological control. It is not known to have been established. It will run out in the above key with *lithocolletidis* and *albipes*, but it differs from both of them in that the mesonotal foveae are narrow, deep, and elongate, rather than being broad and shallow.

Pediobius testaceipes (Crawford)

Pleurotropis testaceipes Crawford, 1914, Ins. Ins. Mens., 2: 37. ♀. Described from one specimen: Type ♀, USNM 18216, labeled, "Hunter No. 3415, Batesburg, S. C., Issued VII.11.'13, E.V.81, Leaf miner on undet. plant, Coll. 7/5/13, Pup. 7/9/13?, Issued 7/11/13, Pleurotropis testaceipes Type Cwfd."

This species is presumably a primary parasite of an undetermined leafminer; no additional specimens have been found since it was described.

Pediobius crocidophorae, new species

Female.—Length 1.2–1.4 mm. Head, thorax (except for scutellum), and propodeum black with faint greenish or brassy luster; scutellum and basal half of first gastral tergum metallic blue-green; petiole and posterior ¾ of gaster black; antennae yellow; coxae tan, with brassy luster; legs beyond coxae yellow; wings hyaline, veins pale tan.

Frons below transverse groove sculptured, area above groove almost smooth, very faintly sculptured, this sculpture becoming more intense on vertex; ocellocular line and length of lateral ocellus equal and each twice as great as the distance from lateral ocellus to occipital ridge; dorsal width of compound eye ½ interocular width at anterior ocellus. Relative lengths of parts of antenna—scape, 30; pedicel, 10; first funicular segment, 10; second, 9; third, 8; club, 16.

Pronotum with 6 dorsal bristles; mesonotum, including foveae, with scaly sculpture. Forewing with marginal vein 10 times as long as stigmal, postmarginal and stigmal veins subequal in length. Scutellum convex and entire surface sculptured; parallel, longitudinal rugae present at base, the addition of transverse rugae in the middle and apical areas producing semirectangular reticulate figures. Propodeum smooth, a pair of widely spaced, parallel median carinae present; sublateral carinae straight, slightly convergent posteriorly.

Petiole as wide as long. Gaster slightly longer than thorax and propodeum; first gastral tergum comprising half the dorsal length of gaster, its anterior half smooth, posterior half shagreened; posterior 6 gastral terga shagreened.

Male.—Length 0.9–1.1 mm. Frons bright metallic green, rest of head brassy; thorax (except scutellum) greenish or brassy; scutellum, coxae, and basal ⅔ of first gastral tergum metallic blue-green; antenna pale tan with faint metallic green luster; legs beyond coxae pale yellow or white, apices of femora usually washed with metallic green.

Antenna with only 3 funicular segments; relative lengths of parts of antenna —scape, 24; pedicel, 9; first funicular segment, 10; second, 10; third, 10; club, 18. Structure and sculpture as in female, except that petiole is slightly longer than wide and gaster slightly shorter than thorax and propodeum (posterior terga may be telescoped beneath first tergum, making gaster half its normal length).

Type locality.—Clemson, S. C.

Type.—USNM No. 67489.

Described from 43 female and 11 male specimens: Type ♀, allotype ♂, and 33 ♀, 8 ♂ paratypes, Clemson, S. C., Aug. 2, 1933, reared from pupa of *Crocidophora pustuliferalis* Led., by W. C. Nettles; 2 ♂, same data, but July 28, 1933; 9 ♀, Louisiana [no locality specified], 1928, reared from *Crocidophora pustuliferalis*, C. O. Hopkins. All specimens deposited in the USNM collection.

Biological relationships.—The above data would indicate that this species is a primary parasite of *Crocidophora pustuliferalis* Led., a pyraustid moth that webs together the leaves of bamboo. Actually, *Pediobius crocidophorae* quite possibly is a secondary parasite, through the braconid *Macrocentrus crocidophorae* Muesebeck.

Pediobius longus (Girault)

Pleurotropis longus Girault, 1916, Canad. Ent., 48: 342. ♀. Described from one specimen: Type USNM 20326, labeled "Lafayette, Ind., W. J. Phillips collector, Webster No. 6304"; specimen fragmentary.

This species has been reared from canary grass, *Phalaris* sp., that also yielded *Harmolita phalaridis* Phillips and Poos.

Pediobius lonchaeae, new species

Female.—Length 1.1–1.8 mm. Shining jet black, with propodeum and base of first gastral tergum faintly metallic green; vertex sometimes metallic green; antennae and legs, except tarsi, black with faint metallic green sheen visible on flagellum, femora, and tibiae; basal 3 segments of each tarsus white, apical one dark brown; wings hyaline, veins brown.

Frons below transverse groove shagreened, areas immediately above groove, and at eye margins, smooth; ocellar area faintly sculptured; ocellocular line and length of lateral ocellus equal; distance from lateral ocellus to occipital ridge ⅓ length of ocellus. Dorsal width of eye ½ interocular width at anterior ocellus. Relative lengths of parts of antenna—scape, 40; pedicel, 14; first funicular segment, 16; second, 16; third, 12; club, 22.

Pronotum with 8 dorsal bristles; mesonotum, including foveae, with strong, scaly sculpture. Forewing with marginal vein 7 times as long as stigmal, postmarginal and stigmal veins subequal in length. Scutellum flattened, smooth at apex, elsewhere with irregular, longitudinal rugae, fig. 4, cross rugulae in apical half forming irregular alveolate or semirectangular figures. Postnotum depressed, and a pair of deep, transverse pits on propodeum just behind postnotum. Propodeum glass-smooth except at posterior margin, where surface is faintly reticulated; median carinae of propodeum divergent from base to apex, lateral carinae straight, parallel.

Petiole broader than long. Gaster ⅗ to ¾ as long as thorax and propodeum; first gastral tergum strongly and densely sculptured on lateral surfaces, median dorsal area with slightly weaker sculpture; first tergum comprising ¾ the dorsal length of gaster, following terga telescoped beneath first, only apical 2 or 3 terga visible.

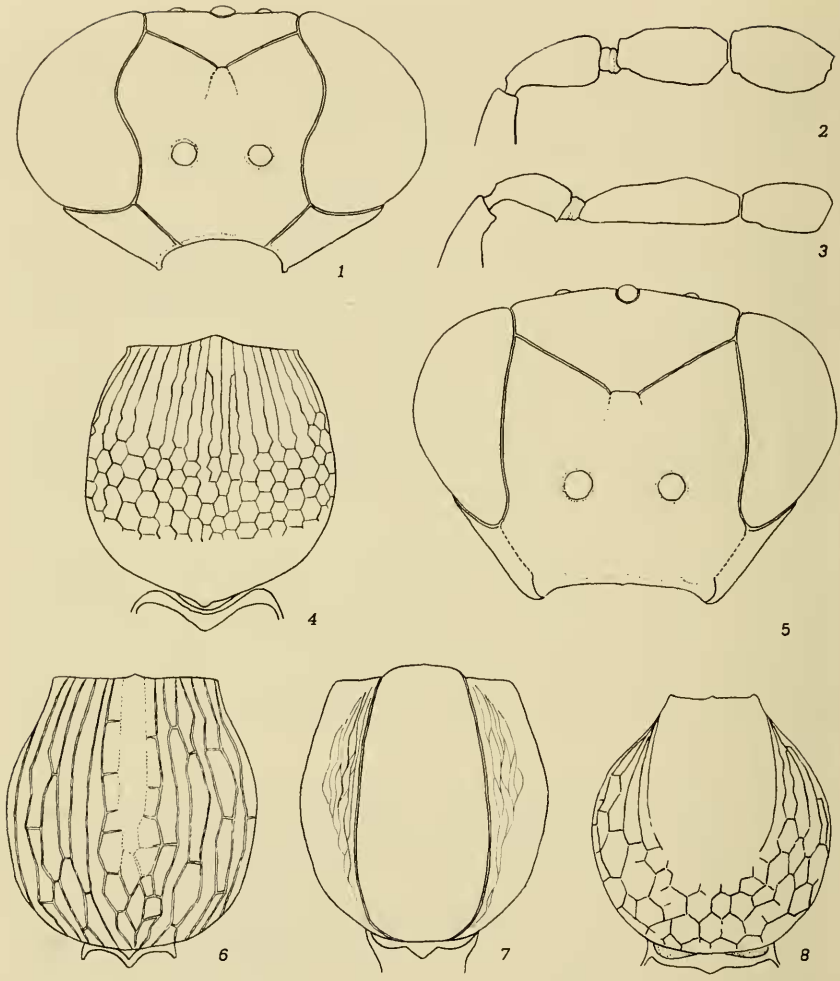
Male.—Length 1.0–1.6 mm. Frons bright metallic green or lavender, vertex green; mesonotum faintly metallic green, propodeum bright green; first gastral tergum green or blue-green; antennae and legs, except tarsi, bright blue-green or lavender, tarsi as in female.

Antenna with 4 funicular segments; relative lengths of parts of antenna—scape, 35; pedicel, 14; first funicular segment, 20; second, 20; third, 18; fourth, 15; club, 20. Structure and sculpture otherwise as in female, except that petiole is slightly longer than broad and gaster is ⅔ as long as thorax and propodeum.

Type locality.—Ithaca, N. Y.

Type.—USNM No. 67490.

Described from 46 ♀ and 27 ♂ specimens: Type ♀, Ithaca, N. Y., no. 589, July 7, 1926, reared from *Lonchaea* sp. in burrows of *Pissodes strobi* (Peck), T. C. Barnes; allotype ♂, same data, but no. 566, June 23, 1926; 12 ♀, 13 ♂ paratypes, same data, but various dates in 1925–1926; 1 ♀, 1 ♂, Mount Alto, Pa., nos. 590, 591, June 24, 1926, T. C.



Pediobius Walker. Fig. 1, *splendens* (Cook and Davis), anterior aspect of the ♀ head; fig. 2, *metallicus* (Nees), pedicel and funiculus of ♀ antenna; fig. 3, *nigritarsis* (Thomson), pedicel and funiculus of ♀ antenna; fig. 4, *lonchaeae*, new species, scutellum; fig. 5, *phyllotretae* (Riley), anterior aspect of the ♀ head; fig. 6, *nawai* (Ashmead), scutellum, drawn from the lectotype; fig. 7, *longfellowi* (Girault), scutellum; fig. 8, *tarsalis* (Ashmead), scutellum.

Barnes; 1 ♀, Essex Co., N. J., no. 561, June 3, 1926, T. C. Barnes; 1 ♀, Franklin Co., Mass., No. 563, June 24, 1926, T. C. Barnes; 1 ♂, Bridgewater, Mass., no. 588, May 1926, T. C. Barnes; 6 ♀, Boston (Roslyndale), Mass., May–June 1928, from white pine shoots, R. L. Taylor; 1 ♀, Pelham, Mass., with white pine weevil, July 22, 1959, J. C.

Downey; 1 ♀, Orford, N. H., no. 567, June 1926, T. C. Barnes; 2 ♀, 1 ♂, Durham, N. H., from weeviled white pine leader, April 7–8, 1954, J. G. Conklin; 1 ♀, Greene, Maine, no. 574, June 1926, T. C. Barnes; Virginia [no localities specified], from *Pissodes strobi* material, July 1963, D. M. Harmon; 1 ♂, Pottageville, Ont., no. 049-1719, Mar. 25, 1950, ex *Pissodes strobi*, F.I.S. 1949; 2 ♂, 5 ♀, Petawawa, Ont., various dates in May and June, 1938 and 1940, ex *Lonchaea* sp. on *Pissodes strobi*, D. E. Gray; 1 ♀, Petawawa, Ont., *Pissodes strobi*, Jan. 27-31, 1940, C. H. Zavitz; 1 ♂, Madoc, Ont., no. 4371A, Jan. 27, 1942 (incubator rearing), *P. strobi*, F.I.S. 1942; 1 ♀, White, Ont., no. 052-1202, *Pissodes strobi*, Aug. 5, 1952, F.I.S. 1952; 2 ♀, Chalk River, Ont., ex *Lonchaea* on *P. strobi*, Jan. 19–20, 1939 (incubator rearing), F.I.S. 1938. Nine ♀ and 4 ♂ paratypes deposited in the Canadian Entomology Research Institute, Ottawa, Ontario; the other specimens are in the USNM collection.

Biological relationships.—This is a primary parasite of *Lonchaea* sp. (probably *L. corticis* Taylor), a fly that invades the burrows made by *Pissodes strobi* (Peck) in the terminal growth of white pine.

Pediobius williamsoni (Girault)

Mestocharis williamsoni Girault, 1911, N. Y. Ent. Soc. Jour., 19: 179. ♀, ♂. Lectotype ♀, Ill. Nat. Hist. Survey, Urbana, Ill.; designated by Frison, 1927, Ill. Nat. Hist. Survey Bul., 16: 222.

This species was reared from conopids of the genus *Physocephala* parasitic on bees of the genera *Anthophora*, *Bombus*, and *Psithyrus*.

Pediobius longfellowi (Girault)

Epipleurotropis longfellowi Girault, 1917, Descr. Hym. Chalc. Var. cum Obs., no. 3, p. 7. ♀. Described from one specimen: Type, USNM 21400, labeled "Parasite of Lithocolletis, Quaintance No. 11031, North East, Pa., VI-4-16, Reared by D. Isley"; specimen fragmentary.

This species has been reared from lepidopterous leafminers of the genus *Lithocolletis*.

Pediobius nawai (Ashmead)

Derostenus nawai Ashmead, 1904, N. Y. Ent. Soc. Jour., 12: 160. ♀, ♂. Described from 1 ♀, 3 ♂ specimens, but the female has been lost: Lectotype ♂, USNM 7200, labeled, "Y. Nawa, Gifu, Japan, Oct. 1902, Derostenus nawaii Ash." Present designation of lectotype.

This is a Palearctic hyperparasite of the gypsy moth and other Lepidoptera, inadvertently introduced into New England along with *Apanteles melanoscelus* (Ratzeburg) before 1920. It is now well established in New England, but has not yet been taken elsewhere in North America.

Pediobius tarsalis (Ashmead)

Asecodes albitarsis Ashmead, 1888, Canad. Ent., 20: 103. ♀. Type lost. Preoccupied in this genus by *Entedon albitarsis* Ashmead, 1888, *ibid.*, p. 102, according to Crawford, 1912, first reviser.

Holcopelte tarsalis Ashmead, 1894, Amer. Ent. Soc. Trans., 21: 341. ♀, ♂. Lectotype ♀, USNM 41376, labeled "Hyper. ex cocoon on sphingid, Accession No. 5402 A. D. Hopk's W. Va., Holcopelte tarsalis Ashm. Type." Present designation of lectotype.

Pleurotropis ashmeadi Crawford, 1912, U. S. Natl. Mus. Proc., 43: 177. New name for *albitarsis* Ashmead. Syn. under *tarsalis* Ashmead by Gahan, 1927, U. S. Natl. Mus. Proc., 71 (4): 26.

This is a common secondary parasite of Lepidoptera. Specimens in the USNM collection emerged from cocoons or pupal cases of primary parasites of the genera *Apanteles*, *Eulophus*, *Dibrachys*, *Hyposoter*, and *Phorocera*; numerous other primary parasites of various Lepidoptera are recorded in the literature as hosts of *tarsalis*.

Pediobius aphidiphagus (Ashmead)

Entedon aphidiphagus Ashmead, 1887, Amer. Ent. Soc. Trans., 14: 201. ♀. Lectotype ♀, USNM 59133, labeled, "Jacksonville, Fla., Entedon aphidiphagus Ashm." Present designation of lectotype.

Asecodes quercicola Ashmead, 1888, Kans. Agr. Expt. Sta. Bul. 3, p. viii. ♀, ♂. Lectotype ♀, USNM 13147, labeled, "Jun., Riley Co. Ks., Marlatt, 841, Oak apple, June 18, '87, Asecodes quercicola Type Ashm." Present designation of lectotype. Species syn. by Gahan, 1951, Canad. Ent., 83: 170.

This species originally was described, in error, as a parasite of aphids. Actually, it emerges from cynipid galls on *Quercus* that have been invaded by tineid larvae, and these are the true hosts.

Pediobius nigritarsis (Thomson)

Pleurotropis nigritarsis Thomson, 1878, Hym. Scand., v. 5, p. 251. ♀, ♂.

Pleurotropis benefica Gahan, 1921, Ent. Soc. Washington Proc., 23: 117. ♀, ♂. Type ♀, USNM 24166, also ♂ allotype, and ♀, ♂ paratypes. Species syn. by von Rosen, 1956, K. Lantbruksh. Ann., 23: 19.

This is a Palearctic parasite of *Cephus* spp., principally *C. pygmaeus* (L.). It probably was introduced into North America along with its host.

Pediobius metallicus (Nees)

Eulophus metallicus Nees, 1834, Hym. Ichn. Affin. Monog., v. 2., p. 176. ♀, ♂. Type probably lost; redescription by Gahan, 1933, U. S. Dept. Agr. Misc. Pub. 174, pp. 133–137 followed here.

Entedon epigonus Walker, 1839, Monog. Chalc., v. 1, p. 112. ♀, ♂. Species syn. by Walker, 1848, List Hym. Ins. Brit. Mus., v. 2, p. 136.

Semiotellus nigripes Lindeman, 1887, Soc. Imp. Nat. Mosc. Bul., ser. 2, 1: 179, 185, 192. Species syn. by Forbes, 1892, Ins. Life, 5: 72.

This is a Palearctic parasite of the Hessian fly, successfully introduced into the Midwest and Maryland from England in 1891–1894.

Subsequently, it has spread naturally to most areas in North America where wheat is grown.

Pediobius splendens (Cook and Davis)

Derostenus splendens Cook and Davis, 1891, Mich. Agr. Expt. Sta. Bul. 73, p. 13. ♀, ♂. Lectotype ♀, USNM 41377, labeled, "Ag. Coll. Mich. 285, Type, Derostenus splendens Cook." Specimen fragmentary. Present designation of lectotype.

This is a secondary parasite of lepidopterous larvae, emerging from the pupal cases of the primary parasite *Eulophus*.

Pediobius phyllotretae (Riley)

Pleurotropis phyllotretae Riley, 1885, U. S. Dept. Agr. Ann. Rpt. 1884, p. 307. ♀, ♂. Lectotype ♀, USNM 2795, labeled, "Par. on Haltica, head mounted, Pleurotropis phyllotretae L. O. H." Fragments of the head and antennae are on a slide. Present designation of lectotype.

Presumably this is a primary parasite of the larvae of the leafmining flea beetle *Phyllotreta*.

Pediobius utahensis (Crawford)

Pleurotropis utahensis Crawford, 1913, U. S. Natl. Mus. Proc., 45: 316. ♀, ♂. Holotype ♀, USNM 15555, labeled, "Salt Lake, Utah, C. N. Ainslie Collector, Reared from mined corn leaf, Webster No. 8819, antenna mounted, Pleurotropis utahensis Type Cwfd." Also allotype ♂, and ♀, ♂ paratypes in USNM collection.

This species is a primary parasite of *Cephus cinctus* Norton, developing both in native grasses and in cultivated grains. It originally was described as a parasite of a dipterous leafminer, but that evidently was an error.

Pediobius perdubius (Girault)

Amestocharis perdubius Girault, 1917, Descr. Stell. Nov., p. 8. ♀. Lectotype ♀, USNM 20243, labeled, "Holliday, Utah 1915, C. W. Creel collector, Webster No. 9371, Pleurotropis perdubius Girault ♀ type." Present designation of lectotype.

This species originally was thought to be a parasite of *Harmolita*, but that may be incorrect. Many thousands of lots of *Harmolita* material have been reared since this species was described, but no additional specimens of it have been obtained.

Pediobius bucculatricis (Gahan)

Pleurotropis bucculatricis Gahan, 1927, Psyche, 34: 171. ♀, ♂. Type ♀, USNM 40398; also allotype ♂, and ♀, ♂ paratypes.

This species is a parasite of lepidopterous, coleopterous, and dipterous leafminers.

Pediobius lithocolletidis (Ashmead)

Entedon lithocolletidis Ashmead, 1888, Kans. Agr. Expt. Sta. Bul. 3, p. viii. ♀, ♂. Lectotype ♀, USNM 13148, labeled, "Sept., Riley Co. Ks., Marlatt, 717, Litho. on H. g. serratus, Sept. 7, '87, Entedon lithocolletidis Type Ashm." Present designation of lectotype.

This is a parasite of lepidopterous, coleopterous, and dipterous leafminers.

Pediobius albipes (Provancher)

Holcopelte albipes Provancher, 1887, Addit. Corr. Faune Ent. Canada, Hym. p. 210. "♂" = ♀. Lectotype ♀ designated by Gahan and Rohwer, 1917, Canad. Ent., 49: 429; deposited in Provancher Collection, Laval Univ., Quebec, P. Q.

Entedon albitarsis Ashmead, 1888, Canad. Ent., 20: 102. ♀, ♂. Lectotype, USNM 62563, labeled, "Arlington, Va., Entedon albitarsis Ashm." Specimen, probably a ♀, consisting only of thorax, 1 forewing, and 3 legs. Present designation of lectotype. Species syn. by Burks, 1964, Canad. Ent., 95: 1259.

This species is a secondary parasite of lepidopterous larvae.

Pediobius niger (Ashmead)

Closterocerus niger Ashmead, 1896, Amer. Ent. Soc. Trans., 23: 232. "♂" = ♀. Lectotype ♀, USNM 28070, labeled, "Algonquin, Ill., 7.25.94, 3979, Type, Closterocerus niger ♂ Ashm." Present designation of lectotype.

This species has been reared from *Acleris* sp., a tortricid leafroller on maple.

Pediobius chloropidis, new species

Female.—Length 1.3–1.5 mm. Head and body jet black, vertex and propodeum with faint metallic green luster, base of first gastral tergum iridescent blue-green; antennae black with metallic green sheen; legs, except tarsi, dark metallic green; basal 3 tarsal segments white, apical one dark brown; wings hyaline, veins dark brown.

Frons below transverse groove shagreened, above groove with faint, scaly sculpture; vertex between lateral ocelli more strongly sculptured, surface smooth in ocellocular area; ocellocular line 1⅓ times length of lateral ocellus, the latter equal to distance from ocellus to occipital ridge. Dorsal width of an eye ⅖ as great as interocular width at anterior ocellus. Relative lengths of parts of antenna —scape, 28; pedicel, 14; first funicular segment, 9; second, 9; third, 8; club, 19.

Pronotum with 6 dorsal bristles; mesonotum, including foveae, with shallowly impressed, striate sculpture, these striae, although irregular, tending to form longitudinal patterns. Forewing with marginal vein 8 times as long as stigmal, postmarginal slightly longer than stigmal. Scutellum flattened, entire surface sculptured, this sculpture in basal ⅔ of scutellum consisting of parallel, longitudinal striae, cross-striae in apical third producing semiquadrate figures. Propodeum glass-smooth in basal ⅘, apical ⅕ minutely shagreened; median carinae slightly divergent posteriorly and relatively widely separated; area between carinae roughened; sublateral carinae arcuate, divergent posteriorly.

Petiole broader than long. Gaster as long as or slightly longer than thorax and propodeum; first gastral tergum comprising less than half the dorsal length of

gaster; posterior half of dorsal surface of first tergum lightly sculptured, exposed surfaces of following terga completely covered with more intense sculpture.

Male.—Unknown.

Type locality.—Natrium, W. Va.

Type.—USNM No. 67488.

Described from 6 female specimens: Type and 2 paratypes, Natrium, W. Va., May 4, 1961, reared from *Pseudogaurax* sp., developing in eggs of *Thyridopteryx ephemeraeformis* (Haw.), H. M. Kulman; 3 paratypes, Brooklyn, N. Y., 1936, reared from *Pseudogaurax anchora* (Loew), Louis Roth. All specimens deposited in the USNM collection.

Biological relationships.—This species is a primary parasite of *Pseudogaurax*, a chloropid fly that develops as an egg-predator on the bagworm.

Pediobius rugosithorax (Crawford)

Pleurotropis rugosithorax Crawford, 1912, U. S. Natl. Mus. Proc., 43: 179. ♀, ♂. Lectotype ♀, USNM 14786, labeled, "Reared from Agromyza pupa, July 8, '11, Salt Lake, Utah, C. N. Ainslie collector, Webster no. 6639, antenna mounted, Pleurotropis rugosithorax Cwfd. ♀ Type." Present designation of lectotype.

Pleurotropis kansensis Girault, 1918, Ent. News, 29: 128. ♀. Described from one specimen: Type ♀, USNM 20694, labeled, "Onaga, Kans., Crevecoeur, 305, Pleurotropis kansensis ♀ type Gir." **New synonymy.**

This is a parasite of dipterous leafminers.

Pediobius wilderi (Howard)

Mestocharis wilderi Howard, 1892, Ent. Soc. Washington Proc., 2: 298. ♀, ♂. Lectotype ♀, USNM 2687, labeled, "Sea Cliff, N. Y., May, from Argiope riparia cocoon, Chrysocharis or Mestocharis wilderi ♀ type How." Present designation of lectotype.

This is a secondary parasite in the egg sacs of spiders, emerging from the cocoons of ichneumonid primary parasites.

Pediobius sexdentatus (Girault)

Pseudacrias sexdentatus Girault, 1916, Soc. Ent., 31: 36. ♀. Lectotype ♀, USNM 19992, labeled, "Pseudacrias sexdentatus Gir. ♀ type." Specimen fragmentary and bearing no other labels. Present designation of lectotype.

This is a very common primary or secondary parasite of small Lepidoptera larvae belonging to several families.